CLAIMS

What is claimed is:

1   1.   A method comprising:

2   receiving a first sequence of values;

3   determining a number of positions for a second sequence of values; and

4   generating the second sequence of values, each value of the second sequence

5   corresponding to a radix, the radix for each value of the second sequence

6   varying over the second sequence in relation to an application value, the

7   application value corresponding to a position in the second sequence and a

8   sum of a set of values in the second sequence.

1   2.   The method of claim 1 wherein the first sequence is a binary sequence.

1   3.   The method of claim 1 wherein the first sequence is an excitation sequence.

1   4.   The method of claim 1 wherein the first sequence is a binary sequence and the

2   second sequence represents a distribution of bits in the first sequence.

1   5.   The method of claim 1 wherein the application value is a maximum radix for the

2   second sequence.

1   6.   The method of claim 1 further comprising:

2   converting the second sequence into a decimal value;

3   converting the decimal value into a binary sequence;

4   transmitting the binary sequence and the number of positions;

5   restoring the binary sequence to the decimal value;

6   generating the second sequence from the decimal value; and

7   reconstructing the first sequence from the second sequence.

1   7.   A method comprising:

2   receiving a first binary sequence;

3   determining a number of positions for a sequence of values;

4   determining a value for each position in the sequence, the sequence of values

5   indicating a distribution of bits in the first binary sequence;

6   determining an application value corresponding to the first binary sequence;

7   calculating a radix for each position in the sequence of values, the radix varying in

8   relation to the application value and a set of values of the sequence;

9   converting the sequence of values into a decimal value; and

10   converting the decimal value into a second binary sequence.

1   8.   The method of claim 7 wherein the first binary sequence is an excitation sequence.

1   9.   The method of claim 7 further comprising:

2   transmitting the second binary sequence and the number of positions;

3   restoring the second binary sequence in the decimal value;

4   converting the decimal value into the sequence of values; and

5   reconstructing the first binary sequence from the sequence of values.

10. A system comprising:

a first computer system to generate a varying-radix sequence that represents a distribution of bits in a first binary sequence, to generate a decimal value from the varying-radix sequence, to convert the decimal value into a second binary sequence, to transmit the second binary sequence and a number of positions of the varying-radix sequence; and

a second computer system coupled with the first computer system, the second computer system to receive the second binary sequence, to convert the second binary sequence into the decimal value, to generate the varying-radix sequence with the decimal value, and to reconstruct the first binary sequence according to the varying-radix sequence.

1 11. The system of claim 10 wherein the first binary sequence is an excitation
2 sequence.

1 12. The system of claim 10 wherein the application value is a maximum radix for the
2 varying-radix sequence.

13. An apparatus comprising:

an audio codec to generate an excitation sequence; and

a radix unit coupled with the audio codec, the radix unit to determine a number of positions for a varying-radix sequence, the varying-radix sequence to represent a distribution of bits in the excitation sequence, the radix unit to receive an application value and to calculate a radix for each position in the varying-radix sequence, the radix varying in relation to the application value and a set of values in the varying-radix sequence.

1 14. The apparatus of claim 13 further comprising the apparatus to transmit the
2 varying-radix sequence.

1 15. The apparatus of claim 13 further comprising the radix unit to convert the
2 varying-radix sequence into a decimal value.

1 16. The apparatus of claim 13 further comprising the radix unit to convert the
2 varying-radix sequence into a decimal value and to convert the decimal value into a
3 binary sequence.

1   17.   A machine-readable medium that provides instructions, which when executed by a
2   set of one or more processors, cause said set of processors to perform operations
3   comprising:
4   receiving a first sequence of values;
5   determining a number of positions for a second sequence of values; and
6   generating the second sequence of values, each value of the second sequence
7   corresponding to a radix, the radix for each value of the second sequence
8   varying over the second sequence in relation to an application value, the
9   application value corresponding to a position in the second sequence and a
10   sum of a set of values in the second sequence.

1   18.   The machine-readable medium of claim 17 wherein the first sequence is a binary
2   sequence.

1   19.   The machine-readable medium of claim 17 wherein the first sequence is an
2   excitation sequence.

1   20.   The machine-readable medium of claim 17 wherein the first sequence is a binary
2   sequence and the second sequence represents a distribution of bits in the first sequence.

1   21.   The machine-readable medium of claim 17 wherein the application value is a
2   maximum radix for the second sequence.

1   22.   The machine-readable medium of claim 17 further comprising:
2   converting the second sequence into a decimal value;
3   converting the decimal value into a binary sequence;
4   transmitting the binary sequence and the number of positions;
5   restoring the binary sequence to the decimal value;
6   generating the second sequence from the decimal value; and
7   reconstructing the first sequence from the second sequence.

1   23.   A machine-readable medium that provides instructions, which when executed by a

2   set of one or more processors, cause said set of processors to perform operations

3   comprising:

4   receiving a first binary sequence;

5   determining a number of positions for a sequence of values;

6   determining a value for each position in the sequence, the sequence of values

7   indicating a distribution of bits in the first binary sequence;

8   determining an application value corresponding to the first binary sequence;

9   calculating a radix for each position in the sequence of values, the radix varying in

10   relation to the application value and a set of values of the sequence;

11   converting the sequence of values into a decimal value; and

12   converting the decimal value into a second binary sequence.

1   24.   The machine-readable medium of claim 23 wherein the first binary sequence is an

2   excitation sequence.

1   25.   The machine-readable medium of claim 23 further comprising:

2   transmitting the second binary sequence and the number of positions;

3   restoring the second binary sequence in the decimal value;

4   converting the decimal value into the sequence of values; and

5   reconstructing the first binary sequence from the sequence of values.

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